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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/775,564	02/10/2004	A. Lew Wingert	BOEI-1-1207	1436
46020	7590	02/06/2006	EXAMINER	
BLACK LOWE & GRAHAM PLLC			THOMAS, ALEXANDER S	
701 FIFTH AVENUE, SUITE 4800			ART UNIT	
SEATTLE, WA 98104			PAPER NUMBER	

1772

DATE MAILED: 02/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/775,564

Applicant(s)

WINGERT ET AL.

Examiner

Alexander Thomas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-72 is/are pending in the application.
- 4a) Of the above claim(s) 56-68 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-55 and 69-72 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/15/05</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39,40, 45-47, 50,51, 69, 70 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in view of the Magellan Systems Int. publication describing M5 fibers. The primary reference discloses the invention substantially as claimed, namely a fiber-metal laminate comprising at least two metal layers and at least one fiber layer disposed between the metal layers wherein the fiber layer contains a resin matrix and has a modulus of elasticity within the instantly claimed range; see claim 1, the Abstract and column 4, lines 59-62. However it does not teach the use of PIPD fibers in the laminate as the high modulus fibers. The secondary reference discloses that M5 fibers (disclosed by applicant on page 5 of the instant specification as being PIPD fibers) were well-known high modulus fibers for use in structural composites as of December

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2002; see pages 1 and 2 of the publication. It would have been obvious to one of ordinary skill in the art to use any well-known high modulus fiber, such as PIPD fibers (M5 fibers), as the high modulus fibers in the article of the primary reference in view of the teaching in the secondary reference of the use of PIPD fibers (M5 fibers) in composites.

4. Claims 21-25, 41, 42 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in view of the Magellan Systems Int. publication describing M5 fibers as applied to claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39,40, 45-47, 50,51, 69, 70 and 71 above, and further in view of Blohowiak et al ('578). Blohowiak et al disclose the use of a sol-gel coating on metal to improve bonding between the metal and a resin adhesive; see the Abstract. It would have been obvious to one of ordinary skill in the art to use a sol-gel coating on the metal layers in the article of Vogelsang et al in view of the teachings in the secondary reference to improve interlaminar bonding in the article.

5. Claims 9-12, 15, 19, 27, 31-35, 37, 38, 43, 44, 48, 49 and 52-55 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vogelsang et al ('323) in view of the Magellan Systems Int. publication describing M5 fibers as applied to claims 4-8, 13, 14, 16-18, 20, 26, 28-30, 36, 39,40, 45-47, 50,51, 69, 70 and 71 above, and further in view of Westre et al ('050). Westre et al disclose a metal-fiber laminate wherein the fibers may be oriented in more than one direction, multiple fiber and steel layers may be used and a honeycomb core may be employed. It would have been obvious to one of ordinary skill in the art to use the structures taught in the secondary reference in the

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article of Vogelsang et al depending on the desired structural properties for a particular end use.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander Thomas whose telephone number is 571-272-1502. The examiner can normally be reached on 6:30-4:00 M-THUR.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon can be reached on 571-272-1498. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



ALEXANDER S. THOMAS
PRIMARY EXAMINER